

IN THE CLAIMS:

Please amend Claims 1, 11, 21, 34, 39, 44 and 48 as shown below. The claims, as pending in the subject application, now read as follows:

1. (Currently amended) An information processing apparatus comprising:

first converting means for converting print data into image data;

second converting means for converting the print data into code data for allowing a printer to generate the image data;

predicting means for predicting a printing time, including a data processing time and a data transmission time, using the image data converted by said first converting means and a printing time, including a data processing time and a data transmission time, using the code data converted by said second converting means;

discriminating means for discriminating whether the printing time using the image data is shorter than the printing time using the code data or not on the basis of a prediction result by said predicting means; and

selecting means for selecting said first converting means when it is determined by said discriminating means that the printing time using the image data is shorter and selecting said second converting means when it is determined by said discriminating means that the printing time using the image data is not shorter.

2. (Original) An apparatus according to claim 1, wherein said predicting means predicts the printing time on the basis of a processing time and a transmission time on a host computer side and a processing time on the printer side.

3. (Original) An apparatus according to claim 1, wherein the printing time using the image data includes a drawing time, a transmission time, and a processing time of the printer, and the printing time using the code data includes a command generation time and a subclosing time.

4. (Original) An apparatus according to claim 1, wherein the printing time using the image data includes a drawing time, a transmission time, an intermediate data generation time, and a shipping time, and the printing time using the code data includes a command generation time, a transmission time, a shipping preparation time, and a shipping time.

5. (Original) An apparatus according to claim 1, wherein said selecting means selects the converting means on a logical page unit basis.

6. (Original) An apparatus according to claim 1, further comprising:
discriminating means for discriminating whether a subclose occurs in the printer if a printing is performed by the data converted by the converting means selected by said selecting means or not; and

means for degrading a gradation of the data converted by said converting means when it is determined by said discriminating means that the subclose occurs.

7. (Original) An apparatus according to claim 1, further comprising judging means for judging whether an improper drawing occurs or not by checking the print data,
and wherein said selecting means selects said first converting means when it is determined by said judging means that the improper drawing occurs, and selects said second converting means when it is determined by said judging means that the improper drawing does not occur.

8. (Original) An apparatus according to claim 1, further comprising:
third converting means for converting the print data into image data;
judging means for judging whether an improper drawing occurs or not by checking the print data; and
discriminating means for discriminating whether a time which is required for processing by the code data is longer than a time which is required for processing by the image data or not when it is determined by said judging means that the improper drawing does not occur,

and wherein said selecting means selects said third converting means when it is determined by said discriminating means that the time which is required for processing by the code data is longer than the time which is required for processing by the image data, and selects said second converting means when it is determined by said discriminating means that the time which is required for processing by the code data is not longer than the time which is required for processing by the image data.

9. (Original) An apparatus according to claim 8, wherein said first converting means performs a logical operation by RGB and said third converting means performs a logical operation by YMCK.

10. (Canceled)

11. (Currently amended) An information processing method using first converting means for converting print data into image data and second converting means for converting the print data into code data for allowing a printer to generate the image data, comprising:

a predicting step of predicting a printing time, including a data processing time and a data transmission time, using the image data converted by said first converting means and a printing time, including a data processing time and a data transmission time, using the code data converted by said second converting means;

a discriminating step of discriminating whether the printing time using the image data is shorter than the printing time using the code data or not on the basis of a prediction result by said predicting step; and

a selecting step of selecting said first converting means when it is determined by said discriminating step that the printing time using the image data is shorter and selecting said second converting means when it is determined by said discriminating step that the printing time using the image data is not shorter.

12. (Original) A method according to claim 11, wherein in said predicting step, the printing time is predicted on the basis of a processing time and a transmission time on a host computer side and a processing time on the printer side.

13. (Original) A method according to claim 11, wherein the printing time using the image data includes a drawing time, a transmission time, and a processing time of the printer, and the printing time using the code data includes a command generation time and a subclosing time.

14. (Original) A method according to claim 11, wherein the printing time using the image data includes a drawing time, a transmission time, an intermediate data generation time, and a shipping time, and the printing time using the code data includes a command generation time, a transmission time, a shipping preparation time, and a shipping time.

15. (Original) A method according to claim 11, wherein in said selecting step, the converting means is selected on a logical page unit basis.

16. (Original) A method according to claim 11, further comprising:

a discriminating step of discriminating whether a subclose occurs in the printer if a printing is performed by the data converted by the converting means selected by said selecting step or not; and

a step of degrading a gradation of the data converted by said converting means when it is determined by said discriminating step that the subclose occurs.

17. (Original) A method according to claim 11, further comprising a judging step of judging whether an improper drawing occurs or not by checking the print data,

and wherein in said selecting step, said first converting means is selected when it is determined by said judging step that the improper drawing occurs, and said second converting means is selected when it is determined by said judging step that the improper drawing does not occur.

18. (Original) A method using third converting means for converting the print data into image data according to claim 11, further comprising:

a judging step of judging whether an improper drawing occurs or not by checking the print data; and

a discriminating step of discriminating whether a time which is required for processing by the code data is longer than a time which is required for processing by the image data or not when it is determined by said judging step that the improper drawing does not occur,

and wherein in said selecting step, said third converting means is selected when it is determined by said discriminating step that the time which is required for processing by the code data is longer than the time which is required for processing by the image data, and said second converting means is selected when it is determined by said discriminating step that the time which is required for processing by the code data is not longer than the time which is required for processing by the image data.

19. (Original) A method according to claim 18, wherein said first converting means performs a logical operation by RGB and said third converting means performs a logical operation by YMCK.

20. (Canceled)

21. (Currently amended) A storage medium which stores a program using first converting means for converting print data into image data and second converting means for converting the print data into code data for allowing a printer to generate the image data, wherein said program comprises:

a predicting step of predicting a printing time, including a data processing time and a data transmission time, using the image data converted by said first converting means and a printing time, including a data processing time and a data transmission time, using the code data converted by said second converting means;

a discriminating step of discriminating whether the printing time using the image data is shorter than the printing time using the code data or not on the basis of a prediction result by said predicting step; and

a selecting step of selecting said first converting means when it is determined by said discriminating step that the printing time using the image data is shorter and selecting said second converting means when it is determined by said discriminating step that the printing time using the image data is not shorter.

22. (Original) A medium according to claim 21, wherein in said predicting step, the printing time is predicted on the basis of a processing time and a transmission time on a host computer side and a processing time on the printer side.

23. (Original) A medium according to claim 21, wherein the printing time using the image data includes a drawing time, a transmission time, and a processing time of the printer, and the printing time using the code data includes a command generation time and a subclosing time.

24. (Original) A medium according to claim 21, wherein the printing time using the image data includes a drawing time, a transmission time, an intermediate data generation time, and a shipping time, and the printing time using the code data includes a command generation time, a transmission time, a shipping preparation time, and a shipping time.

25. (Original) A medium according to claim 21, wherein in said selecting step, the converting means is selected on a logical page unit basis.

26. (Original) A medium according to claim 21, wherein said program further comprises:

a discriminating step of discriminating whether a subclose occurs in the printer if a printing is performed by the data converted by the converting means selected by said selecting step or not; and

a step of degrading a gradation of the data converted by said converting means when it is determined by said discriminating step that the subclose occurs.

27. (Original) A medium according to claim 21, wherein said program further comprises a judging step of judging whether an improper drawing occurs or not by checking the print data,

and in said selecting step, said first converting means is selected when it is determined by said judging step that the improper drawing occurs, and said second converting means is selected when it is determined by said judging step that the improper drawing does not occur.

28. (Original) A medium which stores a program using third converting means for converting the print data into image data according to claim 21, wherein said program further comprises:

a judging step of judging whether an improper drawing occurs or not by checking the print data; and

a discriminating step of discriminating whether a time which is required for processing by the code data is longer than a time which is required for processing by the image data or not when it is determined by said judging step that the improper drawing does not occur,

and in said selecting step, said third converting means is selected when it is determined by said discriminating step that the time which is required for processing by the code data is longer than the time which is required for processing by the image data, and said second converting means is selected when it is determined by said discriminating step that the time

which is required for processing by the code data is not longer than the time which is required for processing by the image data.

29. (Original) A medium according to claim 28, wherein said first converting means performs a logical operation by RGB and said third converting means performs a logical operation by YMCK.

30. to 33. (Canceled)

34. (Currently amended) A computer having a PDL mode, in which a drawing command is converted into a PDL data and the converted PDL data is transmitted to a printer, and an image mode, in which a drawing command is converted into image data and the converted image data is transmitted to the printer, said computer comprising:

a first computing unit computing a processing time, including a data processing time and a data transmission time, in the image mode;

a second computing unit computing a processing time, including a data processing time and a data transmission time, in the PDL mode; and

a selection unit selecting the PDL mode when the processing time in the image mode computed by said first computing unit is longer than the processing time in the PDL mode computed by said second computing unit, and selecting the image mode when the processing time in the image mode computed by said first computing unit is not longer than the processing time in the PDL mode computed by said second computing unit.

35. (Previously presented) A computer according to claim 34, further comprising a judging unit judging whether an improper printing occurs in the PDL mode, wherein if said judging unit judges that an improper printing occurs in the PDL mode, said selection unit selects an RGB image mode, and if said judging unit judges that an improper printing does not occur in the PDL mode, said selection unit selects the PDL mode when the processing time in the image mode computed by said first computing unit is longer than the processing time in the PDL mode computed by said second computing unit, and selects a YMCK image mode when the processing time in the image mode computed by said first computing unit is not longer than the processing time in the PDL mode computed by said second computing unit.

36. (Previously presented) A computer according to claim 34, wherein the processing time in the PDL mode includes a subclosing time in the event that a band processing is impossible.

37. (Previously presented) A computer according to claim 34, wherein the processing time in the PDL mode includes a PDL command generation time, a transmission time, a shipping preparation time and a shipping time, and the processing time in the image mode includes a drawing time, a transmission time and a shipping time.

38. (Previously presented) A computer that has a PDL mode, in which a drawing command is converted into a PDL data and the converted PDL data is transmitted to a printer, and an image mode, in which a drawing command is converted into an image data and the converted image data is transmitted to the printer, said computer comprising:

a judging unit judging whether an improper printing occurs in the PDL mode; and
a selection unit selecting the image mode when said judging unit judges that an improper printing occurs in the PDL mode, and selecting the PDL mode when said judging unit judges that an improper printing does not occur in the PDL mode.

39. (Currently amended) A print method based on a printer driver that has a PDL mode, in which a drawing command is converted into a PDL data and the converted PDL data is transmitted to a printer, and an image mode, in which a drawing command is converted into an image data and the converted image data is transmitted to the printer, said method comprising:
a first computing step computing a processing time in the image mode;
a second computing step computing a processing time, including a data processing time and a data transmission time, in the PDL mode; and
a selection step selecting the PDL mode when the processing time in the image mode computed in said first computing step is longer than the processing time in the PDL mode computed in said second computing step, and selecting the image mode when the processing time in the image mode computed in said first computing step is not longer than the processing time in the PDL mode computed in said second computing step.

40. (Previously presented) A method according to claim 39, further comprising a judging step judging whether an improper printing occurs in the PDL mode, wherein if said judging step judges that an improper printing occurs in the PDL mode, said selection step selects an RGB image mode, and if said judging step judges that an improper printing does not occur in the PDL mode, said selection step selects the PDL mode when the processing time in the image

mode computed in said first computing step is longer than the processing time in the PDL mode computed in said second computing step, and selects a YMCK image mode when the processing time in the image mode computed in said first computing step is not longer than the processing time in the PDL mode computed in said second computing step.

41. (Previously presented) A method according to claim 39, wherein the processing time in the PDL mode includes a subclosing time in the event that a band processing is impossible.

42. (Previously presented) A method according to claim 39, wherein the processing time in the PDL mode includes a PDL command generation time, a transmission time, a shipping preparation time and a shipping time, and the processing time in the image mode includes a drawing time, a transmission time and a shipping time.

43. (Previously presented) A print method based on a printer driver that has a PDL mode, in which a drawing command is converted into a PDL data and the converted PDL data is transmitted to a printer, and an image mode, in which a drawing command is converted into an image data and the converted image data is transmitted to the printer, said method comprising:

a judging step judging whether an improper printing occurs in the PDL mode; and

a selection step selecting the image mode when said judging step judges that an improper printing occurs in the PDL mode, and selecting the PDL mode when said judging step judges that an improper printing does not occur in the PDL mode.

44. (Currently amended) A computer program that has a PDL mode, in which a drawing command is converted into a PDL data and the converted PDL data is transmitted to a printer, and an image mode, in which a drawing command is converted into an image data and the converted image data is transmitted to the printer, said program comprising:

a first computing step computing a processing time in the image mode;

a second computing code computing a processing time, including a data processing time and a data transmission time, in the PDL mode; and

a selection step selecting the PDL mode when the processing time in the image mode computed in said first computing step is longer than the processing time in the PDL mode computed in said second computing step, and selecting the image mode when the processing time in the image mode computed in said first computing step is not longer than the processing time in the PDL mode computed in said second computing step.

45. (Previously presented) A program according to claim 44, further comprising a judging step judging whether an improper printing occurs in the PDL mode, wherein if said judging step judges that an improper printing occurs in the PDL mode, said selection step selects an RGB image mode, and if said judging step judges that an improper printing does not occur in the PDL mode, said selection step selects the PDL mode when the processing time in the image mode computed in said first computing step is longer than the processing time in the PDL mode computed in said second computing step, and selects a YMCK image mode when the processing time in the image mode computed in said first computing step is not longer than the processing time in the PDL mode computed in said second computing step.

46. (Previously presented) A method according to claim 44, wherein the processing time in the PDL mode includes a subclosing time in the event that a band processing is impossible.

47. (Previously presented) A program according to claim 44, wherein the processing time in the PDL mode includes a PDL command generation time, a transmission time, a shipping preparation time and a shipping time, and the processing time in the image mode includes a drawing time, a transmission time and a shipping time.

48. (Currently amended) A computer program that has a PDL mode, in which a drawing command is converted into a PDL data and the converted PDL data is transmitted to a printer, and an image mode, in which a drawing command is converted into an image data and the converted image data is transmitted to the printer, said program comprising:

a judging step judging whether an improper printing occurs in the PDL mode; and

a selection step selecting the image mode when said judging step judges that an improper printing occurs in the PDL mode, and selecting the PDL mode when said judging step judges that an improper printing does not occur in the PDL mode.